

Physics Division

Master List of Acronyms and Abbreviations

This document was compiled from many different sources and is an effort to provide a comprehensive list of the acronyms and abbreviations used within P-Division. Use the Adobe Acrobat Reader's text-select tool to highlight the acronym and meaning you wish to copy/paste into your document.

If you find/know of an acronym or abbreviation commonly used in P-Division that is not on this list, please send it to me (tdh@lanl.gov) along with its meaning, and I will add it to this list during the regular update/maintenance cycle. If you have an acronym or abbreviation for which you do not know the definition, you can submit it as well. In your message, please provide the context in which the term is used, and I will try to track down its meaning.

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A

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AC	alternating current
ACT	atmospheric Cerenkov telescope
ADC	analog-to-digital converter
ADO	Associate Director for Operations
ADSR	Associate Director for Strategic Research
ADTR	Associate Director for Threat Reduction
ADWEM	Associate Director for Weapons Engineering and Manufacturing
ADWP	Associate Director for Weapons Physics
AFOSR	Air Force Office of Scientific Research
AFRL	U.S. Air Force Research Laboratory (Albuquerque, New Mexico)
AGASA	Akeno Giant Air Shower Array
AGEX	above-ground experiments
AGS	Alternating-Gradient Synchrotron (at BNL)
AHF	Advanced Hydrotest Facility (proposed, LANL)
AMANDA	Antarctic Muon And Neutrino Detector Array
AMS	accelerator mass spectroscopy
AMO	atomic, molecular, and optical (physics)
ANL	Argonne National Laboratory
ANP	atmospheric neutrino physics
APD	avalanche photodiode
API	associated particle imaging

APPJ	atmospheric-pressure plasma jet
APT	accelerator production of tritium
ARDA	Advanced Research and Development Activity
ARO	Army Research Office
ASCI	advanced simulation and computing initiative
ASIC	application-specific integrated circuit
atm	atmosphere (unit of pressure)
ATLAS	Argonne Tandem Linac Accelerator System (at ANL)
ATLAS	Advanced Test Line for Actinide Separation (LANL)
Atlas	Laboratory pulsed-power facility (While technically not an acronym, it's commonly thought to be one.)
Atlas	It is also the UNLV Rack Assembly Facility (While technically not an acronym, it's also commonly thought to be one.)
ATTA	atom-trap trace analysis
AWE	Atomic Weapons Establishment (the UK equivalent of the DOE)

B

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B	Bioscience (Laboratory Division)
BA	bacillus anthracis
BBO	beta-barium-borate

BEARS	Berkeley experiments with accelerated radioactive species (LBNL)	CIA	Central Intelligence Agency
BEC	Bose-Einstein condensate	CID	charge injection device
BES	Basic Energy Sciences (DOE Office of)	CKM	Cabibbo-Kobayashi-Maskawa (matrix)
BER	bit error rate	CMBR	cosmic microwave background radiation
BG	bacillus globigii	C-MOD	Alcator C modification (successor to machines Alcator A, B, C)
BGK	Bernstein-Greene-Kruskal	C-NOT	controlled-not (gate)
BGS	Berkeley Gas-Filled Spectrometer (LBNL)	CPB	Cooper-pair box
BGO	bismuth germanium oxide	CR	convergence ratio
BMD	ballistic missile defense	CSC	cathode-strip chamber
BMDO	Ballistic Missile Defense Organization	CT	compact toroid
BN	Bechtel-Nevada	CT	computerized (or computed) tomography
BNL	Brookhaven National Laboratory	CTS	Cryogenic Thermochemical Separation (LBNL)
BOD	biological oxygen demand	CTX	compact torus experiment
BooNE	booster neutrino experiment	CUNL	Carlsbad Underground Nonaccelerator Laboratory
BR	branching ratio	CUORE	Cryogenic Underground Observatory for Rare Events (Gran Sasso, Italy)
BT	bacillus thuringiensis	CVC	conserved vector current (hypothesis—electroweak theory)
BTR	bodipy-texas red	CVD	chemical vapor deposition

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C	Chemistry (Laboratory Division)
CBNSP	Chemical/Biological National Security Program
CCD	charge-coupled device
CCH	cross-correlation histogram
CAPS	Cassini plasma spectrometer
CC	charged-current
CCS	Computer & Computational Sciences (Laboratory Division)
CDMS	cold dark matter search
CEA	Centre Etude Atomique (Center for Atomic Studies, the French equivalent of the DOE)
CEBAF	Continuous Electron Beam Accelerator Facility (at JLAB)
CERN	European Laboratory for Particle Physics (in French)
cf.	confer (compare)
CFO	Carlsbad Field Office
CH	carbon-hydrogen
CHAMP	continuous high-average-power microsecond pulser
CHI	coaxial helicity injection
CHICO	Compact Heavy-Ion Counter (LBNL)

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DARHT	Dual-Axis Radiographic Hydrodynamic Test (facility)
DANCE	device for advanced neutron capture experiments
DARPA	Defense Advanced Research Projects Agency
DC	direct current
DDST	Deputy Director for Science and Technology
DEMG	disk explosive magnetic generator
DFELL	Duke (University) Free-Electron Laser Laboratory
DFS	decoherence-free subspace
DGL	deputy group leader
DH	dynamic hohlraum
DIM	diagnostic insertion manipulator
DIMES	Delft Institute of Microelectronics and Submicron Technologies (The Netherlands)
DLC	diamond-like carbon

DLP	digital light processor
DM	dark matter
DNA	deoxyribonucleic acid
DOD	Department of Defense
DOE	Department of Energy
DOE-DP	DOE-Defense Programs
DOE-OFE	DOE-Office of Fusion Energy
DQE	detector/detection quantum efficiency
DT	deuterium-tritium
DTRA	Defense Threat Reduction Agency
DX	Dynamic Experimentation (Laboratory Division)
DYNEX	dynamic experiments (confined experiments at DARHT)

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EAS	extensive air shower
ECR	electron cyclotron resonance
EDM	electric dipole moment
EEG	electroencephalography
e.g.	exempli gratia (for example)
EIC	electron-ion collider
EM	electromagnetic
EMP	electromagnetic pulse
EMSP	Environmental Management Science Program
ENDF	evaluated nuclear data file
ENG	electronic neutron generator
ENSDF	evaluated nuclear structure data file
EOS	equation of state
EOS-TPC	equation of state time projection chamber (collaboration-LBNL)
EPR	Einstein-Podolsky-Rosen
EPR	electron paramagnetic resonance
EPW	electron-plasma wave
E-RAD	electron radiography
ERIM	Environmental Research Institute of Michigan
ES	elastic-scattering
ESA	Engineering Sciences and Applications (Laboratory Division)
ES&H	environment, safety, and health
ESP	electrostatic potential

ESR	electron-spin resonance
ETR	enhanced test readiness
eV	electron volt

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FEAT	Facility for Exotic Atom Trapping (LBNL)
FEL	free-electron laser
FET	field-effect transistor
FID	fiber-optic impact detector
fMRI	functional magnetic resonance imaging
FNA	Fast Neutron Analysis
FNAL	Fermi National Accelerator Laboratory
FPU	first production unit
FRC	field-reversed configuration
FRX-L	field-reversed configuration experiment-linear
FWHM	full-width at half maximum
FTE	full-time employee
FTO	French test object
FXR	Livermore (LLNL) radiographic source
FXR	flash x-ray
FY	fiscal year

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GC	ganglion cell
GeV	giga electron volt
GL	group leader
GMT	Greenwich mean time
GNO	Gallium Neutrino Observatory
GPI	gas puff imaging
GRB	gamma-ray burster
GRETA	Gamma-ray Energy Tracking Array (LBNL)
G-T	Gamov-Teller
GTNA	gated thermal neutron analysis
GUT	grand unified theory

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HANE	high-altitude nuclear event/explosion
HARP	high-altitude research program
HDTV	high-definition television
HE	high explosive

HEDH	high energy-density hydrodynamics
HED	high energy-density (physics)
HEP	high-energy physics
HETT	high explosive transit time
HEU	highly enriched uranium
HIRAB	High-Resolution Atomic Beam (facility)
HMX	high melting explosive
HMX	1,3,5,7-tetranitro-1,3,5,7-tetrazacyclo-octane (Cyclotetramethylenetetranitramine)
HP	high-pressure
HPIC	high-pressure ionization chamber
HRIBF	Holifield Radioactive Ion Beam Facility (at ORNL)
HS	Homeland Security (Department)
HV	high voltage

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IAEA	International Atomic Energy Agency
IAW	ion acoustic wave
IB	internal bremsstrahlung
IBD	Industrial Business Development (Laboratory Program Office)
ICCD	intensified charge-coupled device
ICF	inertial confinement fusion
ICF&RP	Inertial Confinement Fusion and Radiation Physics (program)
ICP	inductively coupled plasma
ICPES	inductively coupled plasma emission spectroscopy
ICPMS	inductively coupled plasma mass spectroscopy
IDL	Interactive Data Language™ (commercial software package)
i.e.	id est (that is)
IF	interference filter
IHE	insensitive high explosive
ILL	Institut Laue Langevin (Grenoble, France)
IMB	Irvine-Michigan-Brookhaven (detector)
IMLEO	initial-mass-in-low-earth-orbit
INEL	Idaho National Engineering Laboratory
INPA	Institute of Nuclear and Particle Astrophysics (LBNL)
INPAC	Institute for Nuclear (physics), Particle (physics), Astrophysics, and Cosmology

IPD	institutional program development
IR	infrared
IRIS	Ion source for Radioactive ISotopes (LBNL)
ISiS	Indiana Silicon Sphere (collaboration-LBNL)
IVA	inductive voltage adder

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JASONS	A scientific advisory panel comprised of academic/industry scientists who work in national-security areas. It was formerly sponsored by the DoD and is now funded by DARPA/ARDA. The acronym stands for the months in which they meet (July, Aug., Sept., Oct., & Nov.).
JOWOG	joint working group (US-UK, weapons)
JJ	Josephson junction
JLAB	Thomas Jefferson National Accelerator (Laboratory) Facility

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KamLAND	Kamioka Liquid scintillator Anti-Neutrino Detector (Japan)
KEK	National Laboratory for High-Energy Physics, Japan
KTP	potassium titanyl phosphate

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LAAO	Los Alamos Area Office (a branch of the U.S. Department of Energy)
Laboratory	Los Alamos National Laboratory
LADAR	laser distancing and ranging
LAMPF	Los Alamos Meson Physics Facility (now LANSCE)
LANDD	liquid argon nucleon decay detector
LANL	Los Alamos National Laboratory ("Laboratory" is preferred)
LANSCE	Los Alamos Neutron Science Center
LASL	Los Alamos Scientific Laboratory (LANL designation before January 1, 1981)
LBNL	Lawrence Berkeley National Laboratory
LBO	lanthanum boron oxide
LCD	liquid crystal device/display

LDRD	Laboratory-directed research and development	MEG	magnetoencephalography
LDRD-DR	LDRD-directed research	MEMS	micro-electro-mechanical systems
LDRD-ER	LDRD-exploratory research	MeV	mega electron volt
LEBAF	Low Energy Beam Accelerator Facility (at TUNL)	MFE	magnetic fusion energy
LENA	Laboratory for Experimental Nuclear Astrophysics (at TUNL)	MHD	magnetohydrodynamics
LENS	Low-Energy Solar Neutrino Spectroscopy (Gran Sasso, Italy)	MINOS	main injector neutrino oscillation search
LHC	Large Hadron Collider (facility at CERN)	MIT	Massachusetts Institute of Technology
LHD	Large Helical Device (facility—Japan)	MJ	megajoule
LIG	Laboratory implementation guidance	mK	millikelvins
LIR	Laboratory implementation requirement	MLNSC	Manual Lujan, Jr., Neutron Scattering Center
LLE	Laboratory for Laser Energetics (University of Rochester)	MM	multimode
LLNL	Lawrence Livermore National Laboratory	MMI	multimode-interference
LLS	laser-light scattering	MoNA	Modular Neutron Array (at NSCL)
LMJ	Laser Mega Joule (facility—France)	MOU	memorandum of understanding
LOCC	local operations and classical communication	MP	massively parallel
LOQC	linear optics quantum computing	MRFM	magnetic resonance force microscope
LPI	laser-plasma interaction	MRI	magnetic resonance imaging
lp/mm	line pairs per millimeter	ms	millisecond
LPR	Laboratory performance requirement	MST	Materials Sciences and Technology (Laboratory Division)
LRP	long range plan	MSU	Michigan State University
LSND	Liquid Scintillator Neutrino Detector	MTF	magnetized target fusion
LSO	lutetium oxyorthosilicate (a fast, bright scintillator)	MTOF-MS	multipass time-of-flight mass spectroscopy
LST	local standard time	MVD	multiplicity/vertex detector
LVD	large volume detector	MW	megawatt
		MWPC	multiwire-proportional chamber

M

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μ s	microsecond
MACRO	Monopole and Cosmic Ray Observatory
MAGO	magnetic compression of a fusion target (in Russian)
MC	monté carlo
MCG	magnetocardiography
MCM	multichip module
MCNP	Monte Carlo neutron and photon (transport code)
MCP	micro channel plate

N

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N.A.	not available
N.A.	numerical aperture
n/a	not applicable
NA	not analyzed
NABS	nuclear and beam science
NC	neutral current
NCD	neutral-current detector
NDE	nondestructive evaluation
NDK	nucleon decay
nEDM	neutron electric dipole moment
NEM	neural electromagnetic
NEMS	nano-electro-mechanical systems

NES	neutron elastic scattering	NURF	National Underground Research Facility (proposed)
NFFBI	National Facility for Functional Brain Imaging	NUSEL	National Underground Scientific and Engineering Laboratory (proposed)
NIF	National Ignition Facility (at LLNL)	NW	nuclear weapons
NIH	National Institutes of Health	NW	Nuclear Weapons (Laboratory Directorate)
NIMA	National Imaging and Mapping Agency	NWAP	Nuclear Weapon Archiving Project
NIS	Nonproliferation and International Security (Laboratory Division)	NW-EP	Nuclear Weapons-Experimental Programs
NIST	National Institute of Standards and Technology	NW-SC	Nuclear Weapons-Strategic Computing
NMD	national missile defense	<hr/>	
NMR	nuclear magnetic resonance	O	(Back to top)
NMSU	New Mexico State University	1-D	one-dimensional
NMT	Nuclear Materials Technology (Laboratory Division)	OBER	Office of Biological and Engineering Research (DOE)
NN20	DOE Threat Reduction Office	OFE	Office of Fusion Energy (DOE)
NNN	Nucleon decay, neutrino, and ... (3rd N is unidentified)	OMNIS	Observatory for Multi-flavor Neutrino Interactions from Supernova
NNSA	National Nuclear Security Administration	ONR	Office of Naval Research
NP	nuclear physics	ORNL	Oak Ridge National Laboratory
NPP	Nuclear and Particle Physics (Physics Division Program)	OTR	optical transition radiation
NQR	nuclear quadrupole resonance	<hr/>	
NRA	neutron resonance analysis	P	(Back to top)
NRC	National Research Council	P	Physics (Laboratory Division)
NRC	U.S. Nuclear Regulatory Commission	P-21	Biological and Quantum Physics
NRF	nuclear resonance fluorescence	P-22	Hydrodynamics and X-Ray Physics
NRL	Naval Research Laboratory	P-23	Neutron Science and Technology
NRO	National Reconnaissance Office	P-24	Plasma Physics
NRS	neutron resonance spectroscopy	P-25	Subatomic Physics
ns	nanosecond	P-DO	Physics Division Office
NSA	National Security Agency	PCD	photoconductive detector
NSAC	Nuclear Science Advisory Committee	PCR	polymerase chain reaction
NSCL	National Superconducting Cyclotron Laboratory (at MSU)	PD	photodiode
NSF	National Science Foundation	PDRC	Physics Division review committee
NSLS	national synchrotron light source	PEPE	plasma experiment for planetary exploration
NSTX	national spherical torus experiment	PET	positron emission tomography
NTLX	near-term liner experiment	PF/TNA	pulsed fast/thermal neutron analysis
NTF	Nevada Terawatt Facility (Univ. of Nevada-Reno)	PFNA	pulsed fast neutron analysis
NTS	Nevada Test Site	PFX	Penning fusion experiment
NUDET	nuclear detonation (detection program)	PGA	pulsed gamma-ray analysis
NUEX	neutron experiments	PGAA	prompt gamma-ray activation analysis

PHLIX precision high-energy liner implosion experiment

PHENIX pioneering high-energy nuclear interaction experiment

PHERMEX Pulsed, High-Energy, Radiographic Machine Emitting X-Rays (facility)

PINEX pinhole neutron experiment

PIO Planning Integration Office (Weapons)

PMT photomultiplier tube

PNA peptide nucleic acid

POPS periodically oscillating plasma sphere

PPBES planning, programming, budgeting, and evaluation/execution system

PPPL Princeton Plasma Physics Laboratory

ppm parts per million

pps pulses per second

pRad proton radiography

ps picosecond

PSBO passive shock breakout

PSD pulse shape discrimination

PSII plasma source ion implantation

PSR proton storage ring

PSTH peri-stimulus time histogram

Q [\(Back to top\)](#)

QC quantum computation

QC quantum computer

QCD quantum chromodynamics

QD quantum dot

QEC quantum error correction

QED quantum electrodynamics

QFT quantum Fourier transform

QGP quark-gluon plasma

QIP quantum information processing

QIS quantum information science

QIST quantum information, science, and technology

QKD quantum key distribution

QMU quantified margins and uncertainties

QND quantum nondemolition

R [\(Back to top\)](#)

R&D research and development

RDX research department explosive

RDX 1,3,5-trinitro-1,3,5-triazacyclohexane (Cyclotrimethylenetrinitramine)

RF radio frequency

RFLP restriction fragment length polymorphism

RGA resonant gamma-ray absorption

RGS resonant gamma-ray scattering

RHIC Relativistic Heavy-Ion Collider (at BNL)

RIA Rare Isotope Accelerator (proposed)

R-M Richtmeyer-Meshkov

RMF rotating magnetic field

RMS root mean square

RNC Relativistic Nuclear Collisions (LBNL group)

RO Rabi oscillation

RP radiation physics

RPP random phase plates

RPPL Redmond Plasma Physics Laboratory
(collisionless magnetic) reconnection scaling experiment

R-T Raleigh-Taylor

RULLI remote ultra low light imaging

S [\(Back to top\)](#)

SAGE Soviet-American gallium experiment

SAMi SQUID array microscope

SAW surface-acoustic wave

SBS stimulated Brillouin scattering

SBSS science-based stockpile stewardship

SCEs subcritical experiments

SCEs were: Rebound, Stagecoach, Cimarron, Thoroughbred, and the Stallion series: Vito, Rocco, Mario, and Armando

SCP strongly coupled plasma

SET single-electron transistor

SET single-electron tunneling

SFQ single flux quantum

SHB spectral hole-burning

SHS	single hot spot
SIM	six-inch instrument manipulator
SIS	superconducting image surface
SISAK	Short-lived Isotopes Studied by the AKUFVE-technique (AKUFVE is a Swedish acronym for an arrangement for continuous investigations of distribution ratios in liquid extraction)
SLEP	stockpile life-extension program
SLM	spatial light modulator
SM	single mode
SNL	Sandia National Laboratories
SN	solar neutrino
SNM	special nuclear material
SNO	Sudbury Neutrino Observatory
SNS	Spallation Neutron Source (Laboratory Division)
SOP	streaked optical pyrometry
SPCM	single-photon counting module
SPD	single-photon detector
SPDC	spontaneous parametric down conversion
SPS	single-photon source
SQUID	superconducting quantum interference device
SRS	stimulated Raman scattering
SS	stockpile stewardship
SS	stockpile surveillance
SSP	stockpile stewardship plan
SSPX	sustained spheromak physics experiment
SSR	Strategic and Supporting Research (Laboratory Directorate)
ST	spherical torus
STAR	solenoidal tracker at RHIC (collaboration)
STAR TPC	solenoidal tracker at RHIC (STAR) time-projection chamber (TPC)
STB	Science & Technology Base (Laboratory Program)
STM	scanning-tunneling microscope (–y)
SUNY	State University of New York
SUSY	supersymmetry
SWAP	the inversion of the zero quantum

T	(Back to top)
3-D	three-dimensional
2-D	two-dimensional
T	Theoretical (Laboratory Division)
TA	technical area
TB	tuberculosis
TCS	translation confinement and sustainment
TD	test director
TD	theoretical density
TEP	technology experts panel
TeV	tera electron volt
THREX	thresholded experiments
THz	terahertz
TIM	ten-inch instrument manipulator
TIM	time interval meter
TNA	thermal neutron (activation) analysis
TOF	time of flight
TOP	time-orbiting potential (trap)
TOPS	Teacher Opportunities to Promote Science (program)
TR	Threat Reduction (Laboratory Directorate)
TRU	transuranic (waste)
TSM	technical staff member
TUNL	Triangle Universities Nuclear Laboratory
TW	terawatt
TXD	transient x-ray diffraction

U	(Back to top)
UC	University of California
UCN	ultra-cold neutron
UCT	universal coordinated time
UGT	underground test
ULSI	ultra large scale integration (microprocessor chips)
UNLV	University of Nevada-Las Vegas
UNM	University of New Mexico
UNO	ultimate neutrino observatory
UNR	University of Nevada-Reno
UV	ultraviolet
UXO	unexploded ordinance

V

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V-A	vector-axial
VH	vacuum hohlraum
VHE	very high energy
VISAR	velocity interferometer system for any reflector
VLAND	Very Large Area Neutron Detector
VLSI	very large scale integration (microprocessor chips)
VNIIEF	All-Russian Institute of Experimental Physics (at Arzamas-16; in Russian)
VPM	virtual pinhole microscope

W

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WEM	Weapons Engineering and Manufacturing (Laboratory Directorate)
WIMP	weakly interacting massive particle
WIPP	Waste Isolation Pilot Plant
WNR	Weapons Neutron Research (facility)
WNSL	Wright Nuclear Structure Laboratory (at Yale)
WP	Weapons Physics (Laboratory Directorate)

X

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X	Applied Physics (Laboratory Division)
XRD	x-ray diode
XWARP	X-Division Archiving and Retrieval Project

Y

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YOC	yield over clean
YSO	yttrium oxyorthosilicate (scintillator)

Z

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Z	atomic number (<i>i.e.</i> , low-Z, high-Z)
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